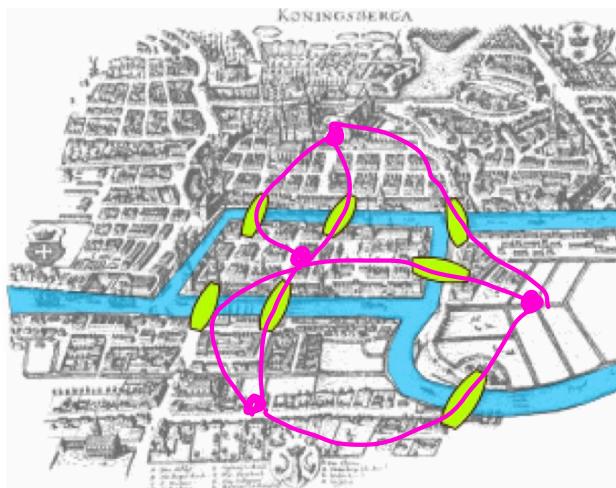


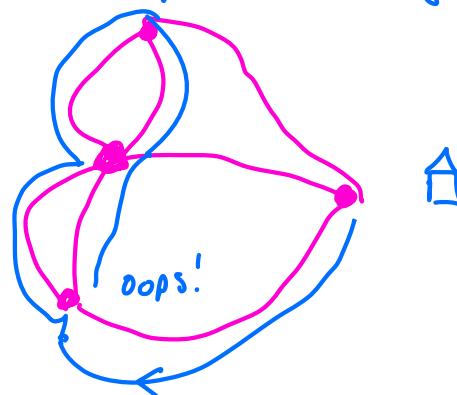
MATH F113X: Euler Paths and Circuits

Terminology: Euler Path (a.k.a Eulerian Path), Euler Circuit (a.k.a. Eulerian circuit)

Konigsberg and Leonhard Euler ["oiler"]



Can we cross each bridge exactly once and get home?

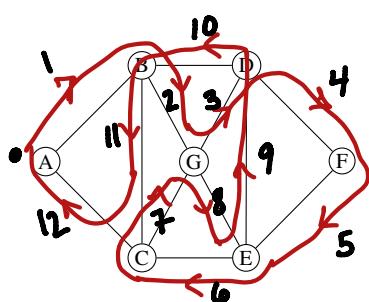


Euler Path

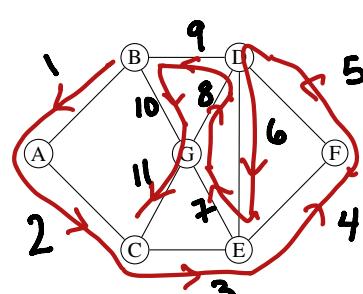
A path in a graph that travels along every edge exactly once

Euler Circuit

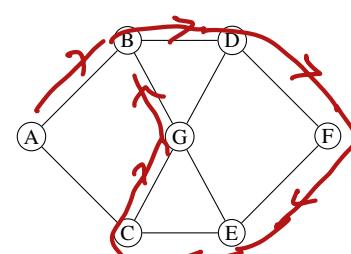
An Euler path that begins and ends at the same vertex



A B G D F E C
G E D B C A
Circuit!



oops! No way to get home?
PATH B A C E F D E G D B G C



oops! Missed edges!
(This was neither...)

Applications

Snow plowing, mail delivery...